

**REMARKS**

Claims 20-30 are now in this application. Claims 20-24 are rejected. New claims 25-30 are added. Claim 23 is amended herein to address matters of form unrelated to substantive patentability issues.

Applicants herein traverse and respectfully request reconsideration of the rejection of the claims cited in the above-referenced Office Action.

Claims 20-22 and 24 are rejected under 35 U.S.C. § 102(b) as being anticipated by Onuki et al. (JP 11097510). Applicants herein respectfully traverse these rejections.

For a rejection to be sustained under §102(b) each and every element of the claimed invention must be disclosed in the cited prior art reference. It is respectfully submitted that the cited reference fails to disclose at least the following features and elements of the present invention as noted herein.

Independent claim 20 recites in pertinent part the following:

determining an angle of the rolling contact surface of the outer ring at which extended lines of the respective rolling contact surfaces of the inner and outer rings intersect at a common point at a rotational axis of the shaft prior to the caulking operation;

obtaining an adjusted angle for the rolling contact surface of the outer ring by adding a fluctuation angle of the rolling contact surface of said inner ring due to the caulking operation to the angle of the rolling contact surface of the outer ring; and  
orienting the rolling contact surface of the outer ring at the adjusted angle relative to the rotational axis prior to performing the caulking operation.

According to these claimed steps, first an unadjusted angle of the rolling contact surface of the outer ring at which extended lines of respective rolling contact surfaces of the inner and outer rings, prior to caulking, intersect at a common point at a rotational axis of the shaft is determined. Then, a fluctuation angle of the rolling contact surface of the inner ring due to the caulking operation is added to the unadjusted angle to obtain an adjusted angle for the rolling contact surface of the outer ring at which the rolling contact surface of the outer ring is oriented, such that when the angle of the rolling contact surface of the inner ring from the initial angle prior to caulking is changed by deformation of the inner ring caused by the caulking operation, such change in angle (fluctuation angle) is already reflected in the adjusted angle of the rolling contact surface of the outer ring by prior adding of the

fluctuation angle thereto. It is respectfully submitted that no such teaching is disclosed in Onuki et al., in accordance with which the change in angle of the rolling contact surface of the inner ring due to caulking is compensated for by a previous design consideration (adjustment) of the angle of the rolling contact surface of the outer ring. Rather, it is the angle of the inner track 18 of the inner ring 13 which is instead adjusted in accordance with Onuki et al., as clearly depicted in Fig. 2 of Onuki et al., referred to by the Examiner in alleged support of the rejections. Consequently, since the subsequent change in angle of the contact surface of the inner ring when caulking is performed is already reflected in a pre-altered angle of the contact surface of the inner ring, in accordance with Onuki et al. and as shown in Fig. 2 thereof, adjustment of the angle at which the contact surface of the outer ring is oriented would be rendered unnecessary, and therefore could not be taught by Onuki et al.. In summary, in Onuki et al., adjustment is made to the inner ring actually being affected by the subsequent caulking, whereas in stark contrast, the present invention instead adjusts the characteristics of the outer ring which is not deformed by the caulking in anticipation of the change of angle of the contact surface of the inner ring due to caulking.

Claim 20 and claims 21, 22 and 24 particularly describe and distinctly claim elements not disclosed in the cited reference. Therefore, reconsideration of the rejections of claims 20-22 and 24 and their allowance are respectfully requested.

Claim 23 is rejected as obvious over Onuki et al., and further in view of Pressler (US 5,702,162) under 35 U.S.C. §103(a). The applicants herein respectfully traverse this rejection.

It is respectfully submitted that the proffered combination of references cannot render the rejected claims obvious because the secondary Pressler reference does not provide the teaching noted above with respect to the anticipation rejection of claim 20 (and claim 22), from which claim 23 depends, that is absent from the primary Ouki et al. reference. Thus, the combination of prior art references fails to teach or suggest all the claim limitations as properly required for establishing a *prima facie* case of obviousness. Therefore, reconsideration of the rejection of claim 23 and its allowance are respectfully requested.

Claims 25-30 are added and are submitted as patentable over the cited art of record. Independent claims 25 and 29 each recites subject matter generally directed to adjusting an angle of the rolling contact surface of the outer ring prior to the caulking operation, which, among other features recited therein, is not believed disclosed in the cited art in the manner as claimed. Dependent claims 26-28 and 30 are patentable based on the subject matter cited therein in addition to the subject matter of claims 25 and 29.

Applicants respectfully request a three (3) month extension of time for responding to the Office Action. Please charge the fee of \$950 for the extension of time to Deposit Account No. 10-1250.

In light of the foregoing, the application is now believed to be in proper form for allowance of all claims and notice to that effect is earnestly solicited. Please charge any deficiency or credit any overpayment to Deposit Account No. 10-1250.

Respectfully submitted,  
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